

SW Series Fiberoptic Switch Modules

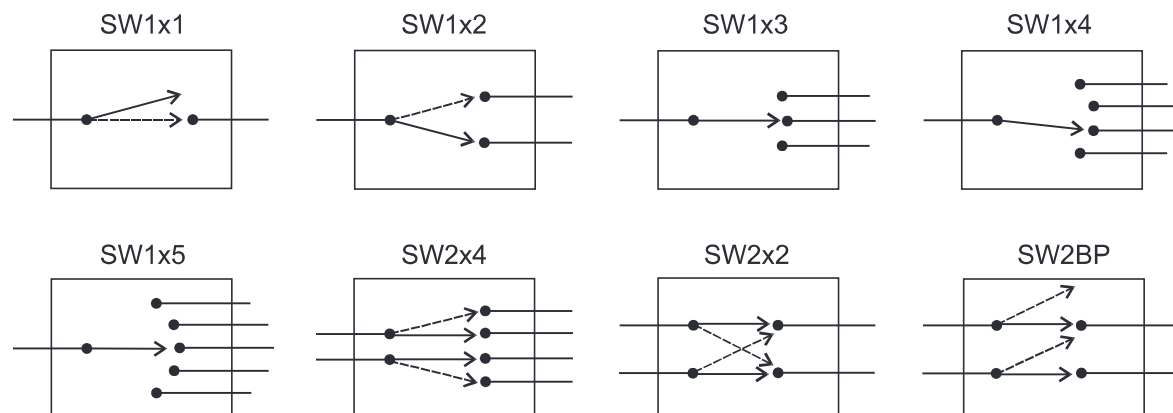
Description

The SW Series of fiberoptic switch modules connect a single channel to one of several (up to five) channels. In addition to the single pole configurations, the SW Series also supports several two pole versions, as shown schematically. Note that the 2x4 version can be driven independently as two 1x2 switches.

Both single-mode and multimode versions are available. In operation, the SW switch connects the optical channel by redirecting the optical signal into a selected output fiber. This is achieved using optical prisms driven by a highly precise mechanism and activated via an electrical control signal.

The use of collimating lenses minimizes the insertion loss and improves the repeatability and stability of the switch parameters. The SW switches are optically passive and are, therefore, transparent to signalling formats. Configurations can be optimized for bidirectional performance as a factory option.

Configurations



Solid lines represent the unpowered (0 V DC) state of the switch.



Key Features

- Typical insertion loss 0.5 dB
- Return loss greater than 55 dB
- Wide choice of configurations
- Small size
- High repeatability over a broad range of environmental conditions
- Simple control

Applications

- Optical signal routing, fiber network configuration, and restoration
- Sensor switching, source/detection selection, reference, and multisource measurements in instrumentation
- Fiberoptic component testing
- Research and development

Specifications

Parameter		Typical	Maximum
Insertion loss	single-mode ¹ (SM)	0.5 dB	0.8 dB
	multimode ¹ (MM)	0.4 dB	0.7 dB
Return loss	SM ²	50 dB	45 dB (minimum)
	SM ² (high RL)	60 dB	55 dB (minimum)
	MM	25 dB	20 dB (minimum)
Polarization dependent loss ^{2,3}	SM	0.02 dB	0.07 dB
Insertion loss stability ⁴		□0.03 dB	□0.05 dB
Repeatability		□0.003 dB	□0.005 dB
Crosstalk		-70 dB	-60 dB
Optical input power			300 mW
Switching time ⁵		10 ms	15 ms
Cycle rate			5 c/s
Operating temperature			-25 to 65 °C
Storage temperature			-40 to 80 °C
Humidity (non-condensing)			95%
Power ⁶		5 ± 5% V DC/45 mA (70 mA for TTL option)	
Dimensions (WxHxD)	SW1x1, 1x2, 2B	40 x 17 x 40 mm (fiber version)	
	SW1x1, 1x2, 2B	70 x 17 x 40 mm (cable version)	
	SW2x2	70 x 17 x 40 mm (fiber or cable version)	
	SW1x3, 1x4, 1x5, 2x4	70 x 17 x 70 mm (fiber or cable version)	
Weight		45, 80, and 140 g	
Control		direct or TTL	

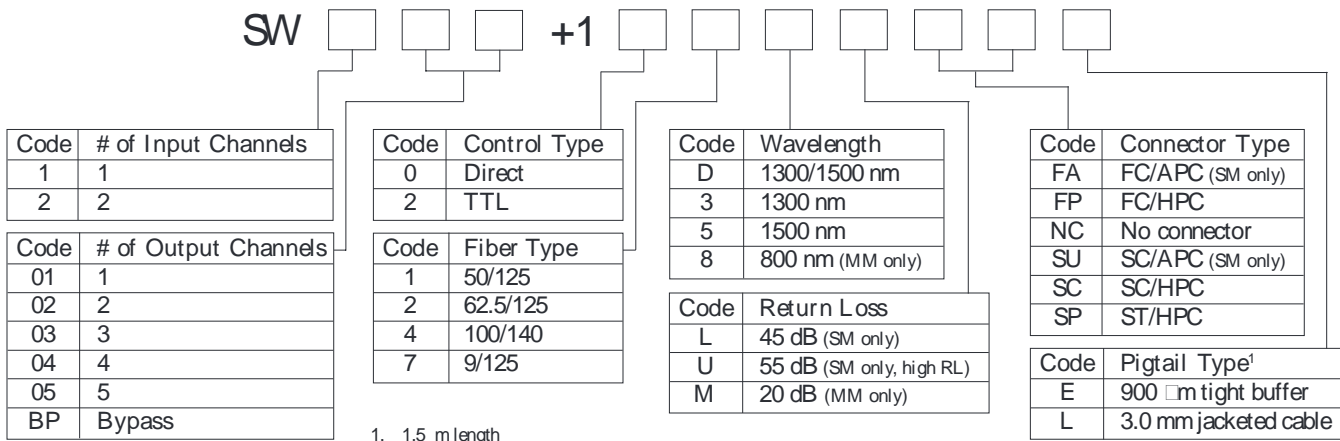
1. Excluding connectors. Include 0.2 dB (typical insertion loss) for each connector. Add 0.2 dB insertion loss for 1x3, 2x2, and higher configurations.
2. Excluding connectors.
3. PDL for SW2x2 is typically 0.09 dB.

4. Drift of any channel relative to one assigned reference channel at ±3 °C deviation of ambient temperature over a seven-day period.
5. For SW1x4, 1x5, and 2x2, the maximum switching time is 20 ms.
6. 90 mA (115 mA TTL) for SW2x4.

Ordering Information

Indicate your requirements by selecting one option from each configuration table. Please print the corresponding codes in the available boxes to form your part number. For more information on this or other products and their availability, please contact your local JDSFITELE sales representative, or JDSFITELE directly at (613)727-1303, or by fax at (613)727-8284 or via e-mail at sales@jdsfitel.com. Specify your requirements in detail and consult your JDSFITELE sales representative or factory to obtain a quote.

Sample: SW101+1075USPE



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JDS FITELE Inc.
570 West Hunt Club Rd.
Nepean (Ottawa), Ontario
K2G 5W8 CANADA

Tel. (613) 727-1303
Fax. (613) 727-8284
sales@jdsfitel.com
www.jdsfitel.com

